

## AMENDMENTS TO THE CLAIMS

**Claim 1 (Currently amended)** A substrate processing apparatus, comprising:  
a substrate holder for holding a substrate;  
~~a plurality of~~ anodes and cathodes disposed ~~opposite~~ so as to face a surface of the substrate when held by ~~the~~ said substrate holder and arranged alternately along at least one direction;  
a processing liquid supply section for supplying a processing liquid between the substrate, when held by ~~the~~ said substrate holder, and ~~the said plurality of~~ anodes and cathodes; and  
a power source for applying a voltage between ~~the~~ said anodes and ~~the~~ said cathodes.

**Claim 2 (Currently amended)** The substrate processing apparatus according to claim 1, further comprising:  
a drive mechanism for bringing ~~the~~ said anodes and ~~the~~ said cathodes close to the substrate when held by ~~the~~ said substrate holder, and  
a rotational drive mechanism for rotating the substrate when held by ~~the~~ said substrate holder.

**Claim 3 (Original)** The substrate processing apparatus according to claim 1, wherein the processing liquid contains an electrolyte.

**Claim 4 (Currently amended)** The substrate processing apparatus according to claim 1, further comprising:  
a rectifier for rectifying ~~the~~ a waveform, of an electric current to be applied between ~~the~~ said anodes and ~~the~~ said cathodes, to at least one of an alternating current waveform, a direct current waveform, a direct current reverse voltage waveform, a pulse waveform, a PR pulse waveform, and a double pulse waveform.

**Claim 5 (Currently amended)** The substrate processing apparatus according to claim 1, wherein ~~the~~ said anodes are arranged over a plane at regular intervals along orthogonal directions, and each of said cathodes is disposed approximately ~~in the center~~ centrally between two of said anodes adjacent ~~to~~ each other in an oblique direction.

**Claim 6 (Currently amended)** The substrate processing apparatus according to claim 1, wherein ~~the~~ said cathodes are arranged over a plane at regular intervals along orthogonal directions, and each of said anodes is disposed approximately ~~in the center~~ centrally between two of said cathodes adjacent ~~to~~ each other in an oblique direction.

**Claim 7 (Currently amended)** The substrate processing apparatus according to claim 1, wherein ~~at least one of said the~~ anodes ~~and the~~ or said cathodes are made of a conductive diamond or lead dioxide.

**Claim 8 (Currently amended)** The substrate processing apparatus according to claim 1, wherein ~~the~~ a distance between the substrate, when held by ~~the~~ said substrate holder, and ~~the~~ said anodes differs from ~~the~~ a distance between the substrate, when held by ~~the~~ said substrate holder, and ~~the~~ said cathodes.

**Claim 9 (Currently amended)** The substrate processing apparatus according to claim 1, wherein

a supply port of ~~the~~ said processing liquid supply section is provided in one of

(i) each of said anodes, and

(ii) each of said cathodes, and

a suction port for sucking in the processing liquid supplied from ~~the~~ said supply port is provided in the other one of

(i) each of said anodes, and,

(ii) each of said cathodes.

**Claims 10 (Currently amended)** A substrate processing method, comprising:  
bringing a plurality of disposing anodes and cathodes, arranged alternately along at least one direction, close to so as to face a substrate held by a substrate holder;  
supplying a processing liquid between ~~the~~ said substrate, held by said substrate holder,  
and ~~the plurality of said~~ anodes and cathodes; and  
applying a voltage between ~~the~~ said anodes and ~~the~~ said cathodes.

**Claim 11 (Currently amended)** The substrate processing method according to claim 10,  
further comprising: wherein the  
rotating said substrate ~~is rotated~~ while applying said ~~the~~ voltage ~~is applied~~ between ~~the~~  
said anodes and ~~the~~ cathodes.

**Claim 12 (Currently amended)** The substrate processing method according to claim 10,  
wherein supplying a processing liquid comprises supplying a ~~the~~ processing liquid ~~contains~~  
containing an electrolyte.

**Claim 13 (Currently amended)** The substrate processing method according to claim 10,  
further comprising:  
between said anodes and cathodes applying wherein an electric current having at least one  
of an alternating current waveform, a direct current waveform, a direct current reverse voltage  
waveform, a pulse waveform, a PR pulse waveform, and a double pulse waveform, ~~is applied~~  
~~between the anodes and the cathodes.~~

**Claim 14 (Currently amended)** The substrate processing method according to claim 10,  
wherein ~~the~~ a distance between ~~the~~ said substrate held by a said substrate holder and ~~the~~ said  
anodes differs from ~~the~~ a distance between ~~the~~ said substrate held by the substrate holder and ~~the~~  
said cathodes.

**Claim 15 (Currently)** The substrate processing method according to claim 10, wherein ~~the supplying a processing liquid comprises supplying said~~ processing liquid ~~is supplied to the~~ said substrate from a supply port provided in one of

(i) each of said anodes, and

(ii) each of said cathodes,

while ~~the~~ processing liquid supplied to ~~the~~ said substrate is sucked ~~from~~ via a suction port provided in the other one of

(i) each of said anodes, and

(ii) each of said cathodes.

**Claim 16 (Currently amended)** ~~A~~ The substrate processing apparatus, according to claim 1 further comprising:

~~a substrate holder for holding a substrate;~~

a processing head having ~~the said plurality of~~ anodes and said cathodes and disposed such that ~~it~~ said processing head faces the substrate when held by ~~the~~ said substrate holder; and

~~a processing liquid supply section for supplying a processing liquid between the substrate held by the substrate holder and the processing head;~~

~~wherein a plurality of anodes and cathodes, and an ultrasonic transducer for emitting ultrasonic waves toward the processing liquid are disposed in the substrate-facing surface of the processing head.~~

**Claim 17 (Currently amended)** The substrate processing apparatus according to claim 16, further comprising:

a relative movement mechanism for moving ~~the~~ said processing head relative to the substrate when held by said substrate holder.

**Claim 18 (Currently amended)** The substrate processing apparatus according to claim 17, wherein ~~the~~ said relative movement mechanism is for rotating said ~~rotates the~~ processing head.

**Claim 19 (Currently amended I)** The substrate processing apparatus according to claim 16, further comprising:

a pulse power source for applying a pulse voltage between ~~the~~ said anodes and ~~the~~ said cathodes.

**Claim 20 (Currently amended)** A substrate processing apparatus, comprising:

a processing liquid supply section for supplying a processing liquid onto a substrate;

a ~~microbubble~~ micro-bubble generator for generating ~~microbubbles~~ micro-bubbles in the processing liquid; and

an ultrasonic transducer for emitting ultrasonic waves to the processing liquid containing ~~the microbubbles~~ micro-bubbles.

**Claim 21 (Currently amended)** The substrate processing apparatus according to claim 20, wherein ~~the~~ said micro-bubbles generator is for generating microbubbles micro-bubbles have having a diameter of not more than 20  $\mu\text{m}$ ; and ~~have~~ an internal pressure of not lower than atmospheric pressure.

**Claim 22 (Currently amended)** The substrate processing apparatus according to claim 20, wherein ~~the~~ said microbubble micro-bubble generator comprises one of a two-fluid nozzle, a gas diffuser, a gas/liquid stirrer, ~~or~~ and an electrolytic gas generator.

**Claim 23 (Currently amended)** The substrate processing apparatus according to claim 20, further comprising:

a substrate holder for holding a substrate; and

a rotating mechanism for rotating the substrate when held by said substrate holder;

wherein ~~the~~ said ultrasonic transducer is disposed such that it faces the substrate when held by ~~the~~ said substrate holder.

**Claim 24 (Currently amended)** The substrate processing apparatus according to claim 23, wherein ~~the~~ said ultrasonic transducer has a processing liquid introduction port, and the processing liquid is to be supplied through ~~the~~ said processing liquid introduction port to between the substrate, when held by the substrate holder, and ~~the~~ said ultrasonic transducer.

**Claim 25 (Currently amended)** The substrate processing apparatus according to claim 20, wherein ~~the frequency of the~~ said ultrasonic transducer is for emitting ultrasonic waves having a frequency of from ~~emitted from the ultrasonic transducer~~ is 5 to 100 MHz.

**Claim 26 (Currently amended)** A substrate processing apparatus, comprising:  
a substrate holder for holding and rotating a substrate;  
a ~~rotatable~~ rotary plate disposed opposite to one of ~~the~~ front and back surfaces of the substrate when held by ~~the~~ said substrate holder, said rotary plate being arranged at a predetermined distance ~~therefrom~~ from the substrate, when held by said substrate holder, so as to form a circular processing space therebetween; and  
a first fluid supply section for supplying a first processing fluid ~~between the substrate held by the substrate holder and the rotary plate~~ to fill the circular processing space with the first processing fluid.

**Claim 27 (Currently amended)** The substrate processing apparatus according to claim 26, wherein ~~the~~ said substrate holder and ~~the~~ said rotary plate are to rotate in opposite directions.

**Claim 28 (Currently amended)** The substrate processing apparatus according to claim 26, wherein the first processing fluid is an etching liquid.

**Claim 29 (Currently amended)** The substrate processing apparatus according to claim 26, further comprising:

a counter plate disposed opposite to the other one of the front and back surfaces of the substrate, when held by ~~the~~ said substrate holder, at a predetermined distance therefrom, and  
a second fluid supply section for supplying a second processing fluid between the substrate, when held by ~~the~~ said substrate holder, and ~~the~~ said counter plate.

**Claim 30 (Currently amended)** The substrate processing apparatus according to claim 29, wherein ~~the~~ said counter plate is rotatable.

**Claim 31 (Currently amended)** The substrate processing apparatus according to claim 30, wherein ~~the~~ said counter plate is to rotate ~~rotates~~ in a direction opposite to ~~the rotating a rotational~~ direction of ~~the~~ said substrate holder.

**Claim 32 (Currently amended)** The substrate processing apparatus according to claim 29, wherein the second processing fluid is an etching liquid.

**Claim 33 (Currently amended)** The substrate processing apparatus according to claim 29, wherein ~~the~~ said counter plate is rotatable.